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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,445	12/27/2001	Takatoshi Kato	50395-128	1608

7590 08/20/2003

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EXAMINER
SONG, SARAH U

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/026,445	Applicant(s) KATO ET AL.	
	Examiner Sarah Song	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Applicant's communication filed on May 29, 2003 has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. Claims 1 and 4-7 have been amended. Claims 1-7 are pending.

2. The indicated allowability of claim 3 is withdrawn in view of the reference(s) to Osaka et al. (EP 1 063 544 A2, previously cited by applicant). The disclosure of Osaka et al. is deemed more pertinent than initially thought. Rejections based on the Osaka et al. reference follow. The late application of this reference is regretted.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Osaka et al. (EP 1 063 544 A2 previously cited by applicant). Osaka et al. discloses a method of connecting a first optical fiber having a first MFD and a second optical fiber having a second MFD smaller than the first MFD by a fusion splicing method (see abstract), comprising sequentially: a step of heating a portion including an adjacent end face of the first optical fiber so as to diffuse a dopant (step 2 in Figure 1, see also Paragraph [0014]); and a step of connecting the first and second optical fibers by fusion-splicing (step 4 in Figure 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka et al. Osaka et al. does not specifically disclose the MFD defined by Petermann I at the adjacent end face of the first optical fiber, or at the fusion-spliced part of the first and second optical fibers to be enlarged by at least 1 μm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the MFD by at least 1μm for the purpose of ensuring that the MFD at the end faces are sufficiently enlarged to accommodate the step of cleaving the optical fibers at specific positions (step 3 in Figure 1). Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Regarding claim 4, Osaka et al. does not specifically disclose an optical transmission line formed by the same method. However, transmission lines comprising optical fiber slices are known in the art as stated in Paragraph [0003] of Osaka et al. Therefore, it would have been obvious to form an optical transmission line by the same method to provide a transmission line with reduced splice losses.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka et al. as applied to claim 1 above, and further in view of O'Toole et al. (previously cited). Osaka et al. does not specifically disclose the method further comprising a step of heating a portion including

the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant. O'Toole et al. discloses a post-fusion heating step of heating a portion including the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant (column 7, lines 6-35) and thus reducing splice losses. It would have been obvious to one having ordinary skill in the art to modify the method of Osaka et al. to further comprise a step of heating a portion including the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant for the purpose of minimizing residual splice losses from the fusion splicing method.

8. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka et al. in view of O'Toole et al. Osaka et al. discussed above, discloses all of the limitations of claim 5, but does not specifically disclose a transmission line formed by the method and does not specifically disclose the method further comprising a step of heating a portion including the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant. However, transmission lines comprising optical fiber slices are known in the art as stated in Paragraph [0003] of Osaka et al. Therefore, it would have been obvious to form an optical transmission line by the same method to provide a transmission line with reduced splice losses. Additionally, O'Toole et al. discloses a post-fusion heating step of heating a portion including the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant (column 7, lines 6-35) and thus reducing splice losses. It would have been obvious to one having ordinary skill in the art to modify the method of Osaka et al. to further comprise a step of heating a portion including the fusion-spliced part between the first and the second optical fibers so as to diffuse a dopant for the purpose of minimizing residual splice losses from the fusion splicing

method. Regarding claim 7, Osaka et al. does not specifically disclose the MFD defined by Petermann I at the fusion-spliced part of the first and second optical fibers to be enlarged by at least 1 μm. However, the modification would have been obvious for the reasons indicated in Paragraph 6 above.

Response to Arguments

9. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning the merits of this communication should be directed to Examiner Sarah Song at telephone number 703-306-5799. Any inquiry of a general or clerical nature, or relating to the status of this application or proceeding should be directed to the receptionist at telephone number 703-308-0956 or to the technical support staff supervisor at telephone number 703-308-3072.

Sarah U Song
sus
August 10, 2003

HEMANG SANGHAVI
PRIMARY EXAMINER